



1           9. A method for prognosis of a malignant neoplasm  
2 of a mammal, comprising

3           (a) contacting a bodily fluid from said mammal  
4 with an antibody which binds to an HAAH polypeptide under  
5 conditions sufficient to form an antigen-antibody complex  
6 and detecting the antigen-antibody complex;

7           (b) quantitating the amount of complex to  
8 determine the level of HAAH in said fluid; and

9           (c) comparing the level of HAAH in said fluid  
10 with a normal control level of HAAH, wherein increasing  
11 levels of HAAH over time indicates an adverse prognosis.

1           10. A method of inhibiting tumor growth in a mammal  
2 comprising administering to said mammal a compound which  
3 inhibits expression of HAAH.

1           11. The method of claim 10, wherein said compound is  
2 a HAAH antisense nucleic acid.

1           12. The method of claim 10, wherein said compound  
2 is a ribozyme.

1           13. The method of claim 10, wherein said tumor is  
2 derived from endodermal tissue.

1           14. The method of claim 10, wherein said tumor is  
2 selected from the group consisting of colon cancer, breast  
3 cancer, pancreatic cancer, liver cancer, and cancer of the  
4 bile ducts.

1           15. The method of claim 10, wherein said tumor is a  
2 CNS tumor.

1           16. A method of inhibiting tumor growth in a mammal  
2 comprising administering to said mammal a compound which  
3 inhibits an enzymatic activity of HAAH.

1           17. The method of claim 16, wherein said enzymatic  
2 activity is hydroxylase activity.

1           18. The method of claim 16, wherein said compound  
2 is a dominant negative mutant of HAAH.

1           19. The method of claim 18, wherein said dominant  
2 negative mutant HAAH comprises a mutation in a catalytic  
3 domain of HAAH.

1           20. The method of claim 16, wherein said compound  
2 is an HAAH-specific intrabody.

1           21. The method of claim 16, wherein said compound  
2 is L-mimosine.

1           22. The method of claim 16, wherein said compound  
2 is a hydroxypyridone.

1           23. A method of inhibiting tumor growth in a mammal  
2 comprising administering to said mammal a compound which  
3 inhibits signal transduction through the IRS signal  
4 transduction pathway.

1           24. The method of claim 23, wherein said compound  
2 inhibits IRS phosphorylation.

1           25. The method of claim 23, wherein said compound  
2 inhibits binding of Fos or Jun to an HAAH promoter sequence.



1           35. The kit of claim 34, wherein said antibody is  
2 immobilized on a solid phase.

1           36. The kit of claim 35, wherein said solid phase  
2 is selected from a group consisting of an assay plate, an  
3 assay well, a nitrocellulose membrane, a bead, a dipstick,  
4 and a component of an elution column.

1           37. A method of determining whether a candidate  
2 compound inhibits HAAH enzymatic activity, comprising

3           (a) providing a HAAH polypeptide;

4           (b) providing a polypeptide comprising an EGF-like  
5 domain;

6           (c) contacting said HAAH polypeptide or said NOTCH  
7 polypeptide with said candidate compound;

8           (d) determining hydroxylation of said polypeptide of  
9 step (b), wherein a decrease in hydroxylation in the  
10 presence of said candidate compound compared to that in the  
11 absence of said compound indicates that said compound  
12 inhibits HAAH enzymatic activity.

1           38. A method of determining whether a candidate  
2 compound inhibits HAAH activation of NOTCH, comprising

3           (a) providing a cell expressing HAAH;

4           (b) contacting said cell with a candidate compound;  
5 and

6           (c) measuring translocation of activated NOTCH to  
7 the nucleus of said cell, wherein a decrease in  
8 translocation in the presence of said compound compared to  
9 that in the absence of said compound indicates that said  
10 compound HAAH activation of NOTCH.